

In re Patent Application of:
ALEADDAD ET AL
Serial No. 09/990,871
Filed: **NOVEMBER 16, 2001**

In the Claims:

1. - 20. (cancelled)

21. (new) For use in a call service facility in which a call agent is in live voice communication with a party situated at a location other than said facility, said call agent being equipped with and using a computer workstation, said computer workstation including a keyboard and visual display interface accessible to the call agent and coupled with a voice message storage and retrieval mechanism, said live voice communication being necessary to accomplish the primary purpose of a call, said primary purpose being the collection of information from said party that said call agent enters into a form containing a plurality of objects and displayed on said visual display interface through execution of a forms-based target application program, a method of automatically supplying one or more voice messages to said party, said method comprising the steps of:

(a) storing one or more pre-recorded voice messages in said voice storage and retrieval mechanism that may be played back to said party in response to a voice message selection signal applied thereto; and

(b) providing a target application enhancement mechanism that is linked with and executed as an enhancement to said forms-based target application program, said target application enhancement mechanism being operative, in response to said call agent performing, in association with said live voice communication with said party, a prescribed interaction with one or more selected objects displayed on said visual display interface of said computer workstation by said forms-based target application program, to automatically trigger one or more actions, in addition to those performed by said forms-based target application program in response to such prescribed interaction, such as automatic generation of said voice message

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selection signal, so as to cause automatic playback, by said voice message storage and retrieval mechanism to said party, of one or more of said pre-recorded voice messages, or other pre-defined action, at one or more appropriate junctures during said call.

22. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to automatically trigger said one or more actions, in addition to those performed as a result of execution of said forms-based target application program, without access to source code of said forms-based target application program.

23. (new) The method according to claim 22, wherein said target application enhancement mechanism is operative to perform at least one of hooking and sub-classing actions with respect to said forms-based target application program.

24. (new) The method according to claim 21, wherein said voice storage and retrieval mechanism is operative to automatically play back said one or more pre-recorded voice messages in the voice of said call agent, so that it appears to said party that said call agent is speaking said one or more pre-recorded voice messages.

25. (new) The method according to claim 21, wherein said prescribed interaction performed by said call agent with said one or more selected objects displayed on said display interface of said computer workstation by said forms-based target application program includes manipulation of a selected object on said visual display interface.

26. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative, in

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response to said call agent performing said prescribed interaction with one or more selected objects displayed by said visual display interface, to cause said voice message storage and retrieval mechanism to play back respectively different voice messages requesting said party to supply respectively different information components associated with said one or more selected objects.

27. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to cause said visual display interface to display a text message associated with the playback of said one or more selected voice messages to said party.

28. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to modify the appearance of a selected object with which a voice message to be played back to said party is associated, on said visual display interface.

29. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to cause said visual display interface to modify a text message displayed thereby.

30. (new) The method according to claim 21, wherein said voice message is effective to cause said party to voice information that is subsequently entered by said call agent into one or more fields of said form displayed on said visual display interface of said computer workstation.

31. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to cause said visual display interface to display an object in addition to

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objects displayed thereby as a result of execution of said forms-based target application program.

32. (new) The method according to claim 21, wherein said target application enhancement mechanism is operative to modify the appearance of one or more selected objects displayed on said display interface of said computer workstation by said forms-based target application program.

33. (new) An apparatus for use in a call service facility in which a call agent is in live voice communication with a party situated at a location other than said facility, said call agent being equipped with and using a computer workstation, said computer workstation including a keyboard and visual display interface accessible to the call agent and coupled with a voice message storage and retrieval mechanism, said live voice communication being necessary to accomplish the primary purpose of a call, said primary purpose being the collection of information from said party that said call agent enters into a form containing a plurality of objects and displayed on said visual display interface through execution of a forms-based target application program, said apparatus being operative to automatically supply one or more voice messages to said party, and comprising:

a signal generator that is operative to generate a voice message selection signal for causing one or more pre-recorded voice messages stored in said voice storage and retrieval mechanism to be played back to said party; and

a target application enhancement mechanism that is linked with and executed as an enhancement to said forms-based target application program, said target application enhancement mechanism being operative, in response to said call agent performing, in association with said live voice communication with said party, a prescribed interaction with one or more

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selected objects displayed on said visual display interface of said computer workstation by said forms-based target application program, to automatically trigger one or more actions, in addition to those performed by said forms-based target application program in response to such prescribed interaction, such as automatic generation of said voice message selection signal by said signal generator, so as to cause automatic playback, by said voice message storage and retrieval mechanism to said party, of one or more of said pre-recorded voice messages, or other pre-defined action, at one or more appropriate junctures during said call.

34. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to automatically trigger said one or more actions, in addition to those performed as a result of execution of said forms-based target application program, without access to source code of said forms-based target application program.

35. (new) The apparatus according to claim 34, wherein said target application enhancement mechanism is operative to perform at least one of hooking and sub-classing actions with respect to said forms-based target application program.

36. (new) The apparatus according to claim 33, wherein said voice storage and retrieval mechanism is operative to automatically play back said one or more pre-recorded voice messages in the voice of said call agent, so that it appears to said party that said call agent is speaking said one or more pre-recorded voice messages.

37. (new) The apparatus according to claim 33, wherein said prescribed interaction performed by said call agent with said one or more selected objects displayed on said display interface of

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said computer workstation by said forms-based target application program includes manipulation of the appearance of a selected object on said visual display interface.

38. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative, in response to said call agent performing said prescribed interaction with one or more selected objects displayed by said visual display interface, to cause said voice message storage and retrieval mechanism to play back respectively different voice messages requesting said party to supply respectively different information components associated with said one or more selected objects.

39. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to cause said visual display interface to display a text message associated with the playback of said one or more selected voice messages to said party.

40. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to modify the appearance of a selected object with which a voice message to be played back to said party is associated, on said visual display interface.

41. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to cause said visual display interface to modify a text message displayed thereby.

42. (new) The apparatus according to claim 33, wherein said voice message is effective to cause said party to voice information that is subsequently entered by said call agent into

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one or more fields of said form displayed on said visual display interface of said computer workstation.

43. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to cause said visual display interface to display an object in addition to objects displayed thereby as a result of execution of said forms-based target application program.

44. (new) The apparatus according to claim 33, wherein said target application enhancement mechanism is operative to modify the appearance of one or more selected objects displayed on said display interface of said computer workstation by said forms-based target application program.

45. (new) In a computer workstation of a call agent of a call service facility, in which said call agent is in live voice communication with a party situated at a location other than said facility, said call agent being equipped with and using said computer workstation; said computer workstation including a keyboard and visual display interface accessible to the call agent and coupled with a voice message storage and retrieval mechanism, said live voice communication being necessary to accomplish the primary purpose of a call, said primary purpose being the collection of information from said party that said call agent enters into a form containing a plurality of objects and displayed on said visual display interface through execution of a forms-based target application program, and wherein one or more pre-recorded voice messages are stored in said voice storage and retrieval mechanism for play-back thereby to said party, in response to a voice message selection signal applied thereto, the improvement comprising:

a target application enhancement mechanism that is linked with and executed as an enhancement to said forms-based

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target application program, said target application enhancement mechanism being operative, in response to said call agent performing, in association with said live voice communication with said party, a prescribed interaction with one or more selected objects displayed on said visual display interface of said computer workstation by said forms-based target application program, to automatically trigger one or more actions, in addition to those performed by said forms-based target application program in response to such prescribed interaction, such as automatic generation of said voice message selection signal, so as to cause automatic playback, by said voice message storage and retrieval mechanism to said party, of one or more of said pre-recorded voice messages, or other pre-defined action, at one or more appropriate junctures during said call.

46. (new) The improvement according to claim 45, wherein said target application enhancement mechanism is operative to automatically trigger said one or more actions, in addition to those performed as a result of execution of said forms-based target application program, without access to source code of said forms-based target application program.

47. (new) The improvement according to claim 46, wherein said target application enhancement mechanism is operative to perform at least one of hooking and sub-classing actions with respect to said forms-based target application program.

48. (new) The improvement according to claim 45, wherein said target application enhancement mechanism is operative to cause said visual display interface to display an object in addition to objects displayed thereby as a result of execution of said forms-based target application program.

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49. (new) The improvement according to claims 45, wherein said target application enhancement mechanism is operative to modify the appearance of one or more selected objects displayed on said display interface of said computer workstation by said forms-based target application program.